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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/982,813	10/22/2001	Stephen N. Phillips	032732-002	8278

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EXAMINER	
CURTIS, CRAIG	
ART UNIT	**PAPER NUMBER**
2872	

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/982,813	PHILLIPS ET AL.	
	Examiner	Art Unit	
	Craig Curtis	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 October 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22,30 and 31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22, 30, and 31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Disposition of the Instant Application

° In view of the Applicant's Appeal Brief filed on 18 October 2004, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

° Claims 1-22, 30, and 31 presently are pending in the instant application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-11, 14-19, 21, 22, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woodard et al. (6,034,813) in view of Lipp (3,907,727).

With regard to claim 1, Woodard et al. disclose (see Figs. 5, 8, & 9) the invention as claimed—[a] solar-control film comprising:

a) an adhesive layer (42: col. 5, ll. 13-21) for adhering said solar control film to a substrate (id, 40);

b) one or two metallized layers (see 50 in Fig. 5; 50 & 58 in Fig. 8; and 50 & 80 in Fig. 9); and

c) a scratch-resistant layer (hardcoat 54 in Figs. 5, 8, & 9), wherein the one or two (one, in this case) said metallized layer is between said adhesive layer (42) for adhering to a substrate and said scratch-resistant layer (see hardcoat 54 in Figs. 5, 8, & 9)-- **EXCEPT FOR** an additional teaching wherein said scratch-resistant layer contains dispersed carbon black particles.

Lipp, however, provides an explicit teaching of preparing acrylate sheets containing dispersed carbon black particles (see col. 1, ll. 12-22), it being noted that such acrylate sheets can reasonably be viewed as satisfying Applicants' *scratch-resistant layer* recitation. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the hardcoat (*read:* scratch-resistant) layer of **Woodard et al.** such that it further comprise dispersed carbon black particles, motivated by the explicit teaching by **Lipp** of dispersing carbon black in acrylate sheets, for at least the purposes of reducing the transmittance of infrared radiation through said solar control film, while maintaining good visible transmittance through same, and adequately controlling haze.

With regard to claim 2, the combination explicitly teaches wherein said adhesive layer comprises a pressure-sensitive adhesive (viz., PSA 42: col. 5, ll. 15-17).

With regard to claim 3, Applicant concedes that other types of adhesives are well-known in the art (see p. 9, ll. 1-3 of the Specification), and thus the use of any such art-recognized equivalent adhesive(s) (e.g., a dry adhesive) would certainly have been obvious to one having ordinary skill in the art at the time the invention was made.

With regard to claim 4, releasable liners are notoriously old and well-known in the solar control film prior art (recall releasable liner 42 in Fig. 1 of **Maschwitz et al.**, asserted in a previous Office Action; also see col. 7, ll. 10-12 therein), and such would have been an obvious design choice to one having ordinary skill in the art at the time the invention was made.

With regard to claim 5, the combination further discloses wherein said metallized layer is comprised of aluminum (**Woodard et al.**, col. 6, ll. 31-45) deposited on a polymeric substrate (viz., PET 52: col. 6, ll. 50-53).

With regard to claim 6, the combination further discloses wherein said polymeric substrate comprises polyethylene terephthalate (PET: see, e.g., col. 5, ll. 30-32).

With regard to claims 7 & 8, the combination discloses wherein said scratch-resistant layer respectively comprises from about 1 to about 10 % or from about 2 to about 3 % by weight of said carbon black particles. See **Lipp**: col. 2, ll. 32-37.

With regard claims 9 & 10, the combination discloses the claimed invention as set forth above **EXCEPT FOR** an explicit teaching wherein the carbon black particles have an average particle size in the range of from about 0.2 to about 5.0 microns or from about 0.2 to about 0.5 microns. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have fabricated the solar control film of the combination such that its carbon black particles have an average particle size in the recited ranges, for at least the purpose of achieving a desired optical performance, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With regard to claim 11, the combination expressly discloses wherein said scratch-resistant layer (read: hardcoat) comprises acrylic resin. See **Woodard et al.**: col. 6, ll. 60-62.

With regard to claims 14 & 15, the combination discloses the claimed invention as set forth above, including wherein said scratch-resistant layer has a thickness from 1 μm to 20 μm

(See Woodard et al.: col. 6, ll. 63-64) **EXCEPT FOR** explicit teachings wherein said scratch-resistant layer has, respectively, a thickness in the range of from about 0.5 to 3.0 microns or in the range of from about 0.8 to about 1.8 microns (the later range arguably being encompassed by the "...thickness from 1 μm to 20 μm" teaching by the combination). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have fashioned said scratch-resistant layer of the solar control film of the combination such that it have a thickness in the range of about 0.5 to about 3.0 microns or in the range of from about 0.8 to about 1.8 microns--the lower limit (i.e., a thickness of about 0.5 microns) of the first range being explicitly taught by the combination and the upper limit (i.e., about 3.0 microns) being within a factor of 2 of the teaching by the combination of a thickness of same being about 1.5 microns; and the second range being, as set forth above, arguably met by the combination--for at least the purpose of providing adequate scratch resistance, since it has bee been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With regard to claim 16, the combination discloses wherein said solar control film has both a visible light transmittance of from about 10% to about 80% (**Woodard et al.**: col. 9, ll. 1-67—col. 10, ll. 1-13) and a visible light reflection of from about 0% to about 8% (id.).

With regard to claim 17, the combination discloses wherein said solar control film has a haze of less than about 7%. See **Lipp**: col. 5, ll. 38-40; col. 6, ll. 58-59 (i.e., claim 10).

With regard to claims 18 & 19, the combination discloses wherein said solar control film of claim 1 further comprises a polymeric film between the adhesive layer (42) and the metallized layer (50): namely, layers 44 & 52 in **Woodard et al.**, polyethylene ethylene terephthalate being a well-known polymeric material.

With regard to claim 21, the combination discloses a plurality (read: two or more) of metallized layers. (See metallic layers 50 & 58 in Fig. 8, and 50 & 80 in Fig. 9).

With regard to claim 22, the combination explicitly discloses wherein a polymeric film (PET) is located between adjacent metallized layers (see Fig. 9 in **Woodard et al.**).

With regard to claims 30 and 31, please refer to the rejection of relevant subject matter set forth hereinbefore, it being noted with respect the "...haze of less than about 7%." limitation recited in lines 8-9 of claim 30 that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

2. Claims 12 & 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woodard et al. (6,034,813) in view of Lipp (3,907,727), as applied above to claim 1, and further in view of Döhler et al. (4,978,726).

The combination discloses the claimed invention as set forth above **EXCEPT FOR** an explicit teaching wherein said acrylic resin is respectively prepared from a mixture of pentaerythritol triacrylate ester and pentaerythritol tetraacrylate ester or a mixture of pentaerythritol tetraacrylate ester, pentaerythritol triacrylate ester, and an acrylated epoxy compound. **Döhler et al.**, however, disclose the preparation of acrylic resin from pentaerythritol esters--specifically pentaerythritol triacrylate and pentaerythritolmethacrylate--such esters, in addition to acrylated epoxy compounds, being well known in the prior art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have prepared the acrylic resin of the scratch-resistant layer of the solar control film of the combination from the above-recited mixtures, the critically of one or the other over each other not having been disclosed, for at least the purpose of achieving a desired robustness in said scratch-resistant layer.

3. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Woodard et al. (6,034,813) in view of Lipp (3,907,727), as applied above to, inter alia, claims 1, 18, and 19, and further in view of Ojeda (6,120,901).

The combination discloses the claimed invention as set forth above **EXCEPT FOR** an explicit teaching wherein said polymeric film includes an ultraviolet absorbent. **Ojeda,** however, provides an explicit teaching wherein a polymeric film includes an ultraviolet absorbent. See, e.g., col. 1, ll. 63-67. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the solar control film of the combination such that its polymeric film(s) include an ultraviolet absorbent, as explicitly taught by **Ojeda**, for at least the purpose of forestalling degradation of said solar control film over time as a result of the photooxidation of same by UV light.

Response to Arguments

4. Applicant's arguments with respect to the claims have been considered but are moot in view of the new grounds of rejection set forth hereinbefore. Applicant is apprised that while the references applied in the rejection of the claims remain the same, the motivation for the rejection of the claims has changed.

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig H. Curtis, whose telephone number is (571) 272-2311. The examiner can normally be reached on Monday-Friday, 9:00 A.M. to 6:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn, can be reached at (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system.

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21 December 2004

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